

REMARKS

Claims 1-22 are pending. Claims 1, 4, 5, 7, 8, 11, 12, 14, 15, 18, 19, 21 and 22 are amended herein. No new matter is added as a result of the claim amendments.

103 Rejections

Claims 1-2, 4-6, 8-9, 11-13, 15-16 and 18-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haimowitz et al. ("Haimowitz;" US 5,960,430) in view of Iyengar (US 6,351,561). The Applicants have reviewed the cited references and submit that Haimowitz and Iyengar, alone or in combination, do not show or suggest the invention as recited in Claim 1-2, 4-6, 8-9, 11-13, 15-16 and 18-20.

Applicants respectfully agree with the statements in the Office Action that Haimowitz does not show or suggest features of the present invention recited by independent Claims 1, 8 and 15. The instant Office Action specifically states that Haimowitz does not teach "using a first classification tool to classify said record according to said information from said first portion of said variables; and ... using a second classification tool to classify said record when said first classification tool requires a particular item of information that is missing from said second portion of said variables." By the same reasoning, Applicants respectfully submit that Haimowitz does not show or suggest "using said information with a first classification tool adapted to classify said record; and using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information," as recited by the amended Claims 1, 8 and 15.

Applicants further respectfully submit that Iyengar does not overcome the shortcomings of Haimowitz and respectfully disagree with statements in the instant Office Action to the contrary. Applicants understand Iyengar to only teach methods and apparatus of generating a decision tree classifier based on a particular set of input data (referred to by Iyengar as a training set) that includes multiple records, each record having values for various attributes. Thus, according to Iyengar, each decision tree classifier is inextricably tied to a training set. Iyengar, alone or in combination with Haimowitz, does not address how to apply a decision tree classifier that is derived from a particular training set to a set of input data that is less than the training set. That is, Iyengar (alone or in combination with Haimowitz) does not show or suggest using a decision tree classifier with incomplete information. It is this very problem that is solved by the present claimed invention.

Specifically, Applicants respectfully submit that Iyengar, alone or in combination with Haimowitz, does not show or suggest "using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information" as recited in independent Claims 1, 8 and 15. In other words, the present claimed invention in general recites that a particular action is taken when input information required by a classification tool is missing. Iyengar and Haimowitz, alone or in combination, do not show or suggest any action to be taken in such a situation, and in particular do not show or suggest the type of action recited by independent Claims 1, 8 and 15.

Therefore, Applicants respectfully submit that Iyengar and Haimowitz, alone or in combination, do not show or suggest the present claimed invention

as recited by Claims 1, 8 and 15, and that Claims 1, 8 and 15 are in condition for allowance. Claims 2 and 4-6 are dependent on Claim 1 and recite additional limitations. Claims 9 and 11-13 are dependent on Claim 8 and recite additional limitations. Claims 16 and 18-20 are dependent on Claim 15 and recite additional limitations. Accordingly, Applicants respectfully submit that Iyengar and Haimowitz, alone or in combination, do not show or suggest the additional claimed features of the invention as recited in Claims 2, 4-6, 9, 11-13, 16 and 18-20, and that these claims are in condition for allowance as being dependent on allowable base claims. Therefore, the Applicants respectfully assert that the rejection of Claims 1-2, 4-6, 8-9, 11-13, 15-16 and 18-20 under 35 U.S.C. § 103(a) is traversed.

Claims 3, 7, 10, 14, 17, 21 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haimowitz in view of Iyengar and further in view of Johnson et al. ("Johnson;" US 6,519,580). The Applicants have reviewed the cited references and submit that Haimowitz, Iyengar and Johnson, alone or in combination, do not show or suggest the invention as recited in Claim 3, 7, 10, 14, 17, 21 and 22.

Claims 3 and 7 are dependent on Claim 1 and recite additional limitations. Claims 10 and 14 are dependent on Claim 8 and recite additional limitations. Claims 17 and 21 are dependent on Claim 15 and recite additional limitations. As presented above, Applicants respectfully assert that Haimowitz and Iyengar, alone or in combination, do not show or suggest the invention as recited by Claims 1, 8 and 15.

Furthermore, with regard to Claims 1, 8 and 15, Applicants respectfully assert that Johnson does not overcome the shortcomings of Haimowitz and Iyengar, alone or in combination. Applicants understand Johnson to only

describe a method for inducing rules from a decision tree, where the rules are constructed on the basis of training data. Thus, Johnson suffers from the same shortcomings as Haimowitz and Iyengar. That is, Johnson (alone or in combination with Haimowitz and Iyengar) does not show or suggest using a decision tree with incomplete information (e.g., information less than the training data). Specifically, Applicants respectfully submit that Johnson, Haimowitz and Iyengar, alone or in combination, do not show or suggest "using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information" as recited in independent Claims 1, 8 and 15.

Therefore, Applicants respectfully submit that Johnson, Haimowitz and Iyengar, alone or in combination, do not show or suggest the present claimed invention as recited by Claims 1, 8 and 15, and that Claims 1, 8 and 15 are in condition for allowance. Claims 3 and 7 are dependent on Claim 1 and recite additional limitations. Claims 10 and 14 are dependent on Claim 8 and recite additional limitations. Claims 17 and 21 are dependent on Claim 15 and recite additional limitations. Accordingly, Applicants respectfully submit that Johnson, Haimowitz and Iyengar, alone or in combination, do not show or suggest the additional claimed features of the invention as recited in Claims 3, 7, 10, 14, 17 and 21, and that these claims are in condition for allowance as being dependent on allowable base claims. Therefore, the Applicants respectfully assert that the rejection of Claims 3, 7, 10, 14, 17 and 21 under 35 U.S.C. § 103(a) is traversed.

Along similar lines, Applicants also respectfully assert that Haimowitz, Iyengar and Johnson, alone or in combination, do not show or suggest the invention as recited by independent Claim 22. As acknowledged in the instant

Office Action, Haimowitz does not teach "using a first classification tree to classify said record according to said information from said first portion of said variables, wherein said first classification tree is based on a substantially complete set of information for said plurality of variables; and ... using a second classification tree to classify said record when said first classification tool requires a particular item of information that is missing from said second portion of said variables, wherein said second classification tree is based on information for one of said subsets of variables of said step b), wherein said one of said subsets does not include said particular item of information that is missing." By the same reasoning, Applicants respectfully submit that Haimowitz does not show or suggest "using said information with a first classification tree adapted to classify said record, wherein said first classification tree is based on a substantially complete set of information for said plurality of variables; and using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information, wherein said second classification tree is based on information for one of said subsets of variables, wherein said one of said subsets does not include said particular item of information that is missing," as recited by the amended Claim 22.

With regard to Claim 22, Applicants further respectfully submit that Iyengar does not overcome the shortcomings of Haimowitz. Specifically, Applicants respectfully submit that Iyengar and Haimowitz, alone or in combination, do not show or suggest "using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information, wherein said second classification tree is based on information for one of said subsets of variables,

wherein said one of said subsets does not include said particular item of information that is missing" as recited in independent Claim 22. In other words, the present claimed invention in general recites that a particular action is taken when input information required by a classification tool is missing. Iyengar and Haimowitz, alone or in combination, do not show or suggest any action to be taken in such a situation, and in particular do not show or suggest the type of action recited by independent Claim 22.

Furthermore, with regard to Claim 22, Applicants respectfully assert that Johnson does not overcome the shortcomings of Haimowitz and Iyengar, alone or in combination. Applicants understand Johnson to only describe a method for inducing rules from a decision tree. Applicants understand Johnson to only describe a method in which the rules are constructed on the basis of training data. Thus, Johnson suffers from the same shortcomings as Haimowitz and Iyengar. That is, Johnson (alone or in combination with Haimowitz and Iyengar) does not show or suggest using a decision tree with incomplete information.

Specifically, Applicants respectfully submit that Johnson, Haimowitz and Iyengar, alone or in combination, do not show or suggest "using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information, wherein said second classification tree is based on information for one of said subsets of variables, wherein said one of said subsets does not include said particular item of information that is missing" as recited in independent Claim 22.

Therefore, Applicants respectfully submit that Johnson, Haimowitz and Iyengar, alone or in combination, do not show or suggest the present claimed invention as recited by Claim 22, and that Claim 22 is in condition for allowance. Therefore, the Applicants respectfully assert that the rejection of Claim 22 under 35 U.S.C. § 103(a) is traversed.

Conclusions

In light of the above remarks, reconsideration of the rejected Claims is respectfully requested. Based on the arguments presented above, it is respectfully asserted that Claims 1-22 overcome the rejections of record and, therefore, allowance of these Claims is solicited.


The Applicants have reviewed the references cited but not relied upon. The Applicants did not find these references to show or suggest the present claimed invention: US 6,269,353; US 5,864,839; US 5,806,032; US 6,567,814; US 6,542,894; US 6,523,020; US 6,473,084; 6,466,877; US 6,233,352; and US 6,185,550.

The Examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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